

A.) AMENDMENTS TO THE CLAIMS:

1. (currently amended) A method of access control in an access network infrastructure connected to a plurality of service networks, comprising the steps of:

storing a customer registration database that maintains ranges of network addresses for each of a plurality of available service networks, the network addresses for individual allocation to customers of the available service networks;

receiving, from a customer using a network access device, a selection of a service network from the plurality of available service networks;

receiving a host configuration protocol message acknowledging allocation of a network address to the network access device, the allocation based on the service network selected by the customer and a range allocated to that service network, associated with a service network, to an authenticated network access device;

creating an entry in an address resolution protocol cache that maps the network access device to the service network selected by the customer using information from the dynamic host configuration protocol message; and

restricting access of the network access device to only the access network infrastructure service network selected by the customer, based on the entries entry in the address resolution protocol cache.

2. (currently amended) The invention method of claim 1, wherein the host configuration protocol is DHCP message uses Dynamic Host Configuration Protocol (DHCP).

3. (currently amended) The invention method of claim 1, wherein the address resolution protocol is ARP cache uses Address Resolution Protocol (ARP).

4. (currently amended) The invention method of claim 1, further comprising: the step of flushing the entry in the address resolution protocol cache if when the network address is released by the network access device.

5. (currently amended) The invention method of claim 1, wherein the entry in the address resolution protocol cache has an expiration time set to an expiration time of the network address allocated to the network access device.

6. (currently amended) The invention method of claim 1, wherein the plurality of available service networks utilize the use Internet Protocol and wherein the network addresses are Internet Protocol addresses.

7. (currently amended) The invention method of claim 6 1, wherein the plurality of available service networks are subscription services operated by different separate Internet Service Providers.

8. (currently amended) The invention method of claim 6 1, wherein each of the plurality of available service networks offer access to an internet through different Internet Protocol-based services.

9. (new) The method of claim 2, said creating an entry further comprising:
creating the entry in the address resolution protocol cache without broadcasting an ARP request for the network address.

10. (new) The method of claim 1, said creating an entry in the address resolution protocol cache further comprising:

mapping the network address to a Media Access Control (MAC) address of the service network selected by the customer.

11. (new) The method of claim 1, the selection of the service network comprising a subscription to the service network.